

REMARKS

Reconsideration of this patent application is respectfully requested in view of the foregoing amendments and the following remarks. Claims 14-28 are in the application. Claims 18 and 22 have been amended. No new matter has been added.

The Examiner objected to claims 18 and 22 for typographical errors. Applicant has amended these claims accordingly.

The Examiner has requested an identification of U.S. applications that correspond to the references listed in the search report. Applicant submits that U.S. Serial Nos. 10/019,610 and 10/019,685 are the U.S. counterparts to those applications.

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The Examiner has requested clarification of claim 22 wherein claim 22 describes the bellows changes from the static zone to the dynamic zone without a cylindrical intermediate section. Claim 22 is only directed towards the first embodiment which is shown in FIGS. 1A and 1B.

The Examiner rejected claims 14-26 under 35 USC 102(b) as being anticipated by, or in the alternative, under 35 USC 103(a) as being unpatentable over *Boger et al.*, *Dunlop* or *Gregg*. Applicant respectfully traverses. These three patents all refer exclusively

to an external guide, not a contoured pneumatic suspension bellows.

Accordingly, Applicant submits that claims 14-26 are patentable over the prior art, taken either singly or in combination.

The applicant respectfully traverses this rejection. In particular, the applicant believes that there are significant differences between the present invention as claimed in claim 14 and the above cited references.

First, with the present invention none of the above references show a contoured pneumatic spring bellows has a dynamic zone that is not in contact with an outer guide. Second, the pneumatic suspension bellows such that it is expandable so that an outside surface of the pneumatic suspension bellows contacts the outer guide.

With the first difference, none of the prior art shows a pneumatic suspension bellows having a contoured region as claimed in claim 14, with a first dynamic region and a static region. With all of the designs above, the pneumatic suspension bellows is essentially flat against the wall of the outer guide.

The second difference extends from the design difference

described above. Because the pneumatic spring bellows is formed in a contoured manner, it is normally free of the outer guide so that it is expandable into the outer guide.

The second difference is outlined with the amendment to claim 14 and is shown below:

an outer guide disposed around said pneumatic suspension bellows wherein said outer guide contacts a surface of said contoured pneumatic suspension bellows to mark a division between said dynamic zone and said static zone, wherein when pressure is applied to said contoured pneumatic suspension bellows, said dynamic zone of said contoured pneumatic suspension bellows bends out to contact said outer guide and to form a roll off fold to change the diameter of said contoured pneumatic suspension bellows as it is being loaded and relieved, with said change occurring with respect to said outside diameter of said roll off piston zone.

In contrast to the amended passage above, which is part of claim 14, the cited references disclose devices that are of an entirely different construction as well as an entirely different in function.

For example, with the designs of all of the above references, the pneumatic suspension bellows is in contact with the outer guide such that the contact surface is a majority portion of the outer surface of the bellows 17 in FIGS. 1 and 2 of *Boger*, of bellows 8 of FIGS. 1, 2, and 3 of *Dunlop*, and bellows 18 of FIGS. 1 and 2 of *Gregg*. Thus, when any of the designs of the above inventions are loaded, the suspension bellows rolls off of and away from the

outer guide. With the contact surface of these bellows comprising a majority portion, it leads to a design that is much less flexible than the design of the present invention. For example, the design of the present invention as in claim 14 includes a suspension bellows that actually comprises two different zones, with a dynamic zone formed on one side of the contact region and a static zone formed on an opposite side of the contact region. This division between the two zones is possible because of the limited contact surface between the pneumatic suspension bellows and the outer guide which then allows the pneumatic suspension bellows to expand into the outer guide and provide additional suspension or resiliency against a load.

It is also important that the bellows can be formed in a contoured manner because if the pneumatic suspension bellows was in flat contact with the outer guide, it would conform to the surface of the outer guide. If the pneumatic suspension bellows was flat, there would not be a division between a static zone and a dynamic region. The contour of the pneumatic suspension bellows creates this important dynamic zone such that when the pneumatic suspension piston encounters pressure, that pressure can be compensated for by an expansion of the pneumatic suspension bellows in the dynamic zone to form a "variable volume air chamber" as stated in claim 14. Thus, the applicant believes that claim 14 and dependent claims 15-28 are allowable over the references cited taken either singly or

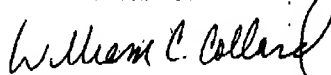
in combination.

New claims 27 and 28 have been added as well which discuss the type of contoured regions of the pneumatic suspension bellows. Thus, the applicant believes that the remaining claims 14-28 are patentable over the above cited references taken either singly or in combination.

Early allowance of the amended claims is respectfully requested.

Respectfully submitted,

ANTONIO BRANCO ET AL. - J



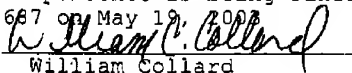
William C. Collard, Reg. No. 38,411  
Allison C. Collard, Reg. No. 22,532  
Edward R. Freedman, Reg. No. 26,048  
COLLARD & ROE, P.C.  
Attorneys for Applicants

1077 Northern Boulevard  
Roslyn, New York 11576  
(516) 365-9802

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Enclosure: 2 month extension of time.

I hereby certify that this correspondence is being Faxed to Examiner Butler at (703) 305-7667 on May 19, 2003

  
William Collard

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